

5 CLAIMS

- 10 1. A data storage and retrieval system characterized in that the fluorescent photosensitive glasses are used as information recording medium.
- 15 2. A data storage and retrieval system characterized in that the fluorescent photosensitive vitroceraamics are used as information recording medium.
3. A data storage and retrieval system as in claims 1 and 2 characterized in that it comprises:
- i) a confocal microscope 2;
 - 20 ii) a tunable laser 5, having maximum 100fs light pulses, used in confocal microscope 2 for writing and reading by two-photon process;
 - iii) a vertical scanning system 3 and a radial scanning system 4 used for the movement of writing and excitation beams;
 - 25 iv) a rotating optical memory 1, ✓
 - v) an excitation laser 6, with the beam perpendicular on the fluorescence beam, provided with a vertical scanning system 7 for reading the optical memory by one-photon process.
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